

REMARKS

Claims 1-3, 9-11, and 15-20 are pending in the present application. Claims 4-7 were previously withdrawn. Claims 8 and 12-14 were previously cancelled. The present Reply is intended to be fully responsive to all points of objection and rejection raised by Examiner and is believed to place the application in a condition for allowance. No amendments are requested. Applicant respectfully requests reconsideration and withdrawal of Examiner's objections and rejections in view of the following remarks.

CLAIM REJECTIONS – 35 U.S.C. § 102

Claims 1-3 and 15-17

Examiner rejected claims 1-3 and 15-17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 3,633,714 to Klaue. More specifically, Examiner stated:

Re: claims 1-3, 15, and 16. Klaue shows in the figure 5 a fluid cooled brake housing for a brake system that includes friction pads 9,10 and a rotatable element 13,67,68 to be braked, the brake housing comprising a circumferential wall 51 and two axial end walls one shown to the right of the end of the lead line of 74 and the other shown to the left of the end of the lead line of 53 that define a cavity as shown for housing the friction pads and rotatable element, an opening in the at least one of the axial end walls through which a portion of the rotatable element can extend as shown, a fluid flow path 73,75 formed around the periphery of the circumferential wall such that the fluid flow path is external to the defined cavity as shown, a fluid inlet 73 in fluid communication with the fluid flow path, a fluid outlet 80 in fluid communication with the fluid flow path, a supply of cooling fluid connected to element 73 in fluid communication with the fluid inlet and the fluid outlet, the cooling fluid flowing from the fluid inlet through the fluid flow path to the fluid outlet thereby cooling the entire brake housing, and a seal means 71 for sealing the opening such that the cavity can be at least partially filled with a volume of lubricating fluid to provide a wet brake housing.

Re: claim 17. Klaue shows in figure 5 the limitation wherein the fluid flow path includes a plurality of parallel channels 75 and 78 extending between the fluid inlet and the fluid outlet.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990).

The claimed invention is distinguishable over Klaue. Klaue does not teach, either expressly or inherently, each and every element as set forth in the claimed invention. More specifically, Klaue fails to teach the claimed element, “. . . a fluid flow path formed *around the*

periphery of the circumferential wall . . .” as provided in the instant Claim 1 (emphasis added). Further, Klaue fails to teach the claimed element, “. . . a fluid flow path formed within the circumferential wall . . .” as provided in the instant Claim 15.

Independent Claim 1

On July 5, 2007 at about 0900 CST, Steven H. Washam, Attorney for Applicant, phoned Examiner to discuss these § 102 rejections. During this telephonic interview, no demonstrations were conducted and the only matters discussed were the Office Action dated June 7, 2007 and the cited Klaue reference (U.S. Patent No. 3,633,714).

In her § 102 rejection, Examiner asserted that the Klaue fluid connecting passages (reference nos. 75 and 78 of Figures 5 and 6, below) were the equivalent of the present invention’s independent claim 1 element “. . . fluid flow path formed around the periphery of the circumferential wall such that the fluid flow path is external to the defined cavity.”

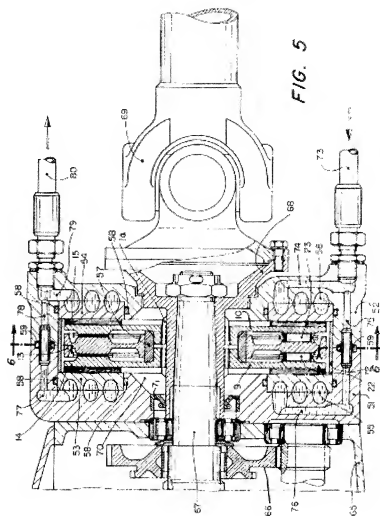


Exhibit 1 - FIG. 5 from the Klaue Reference

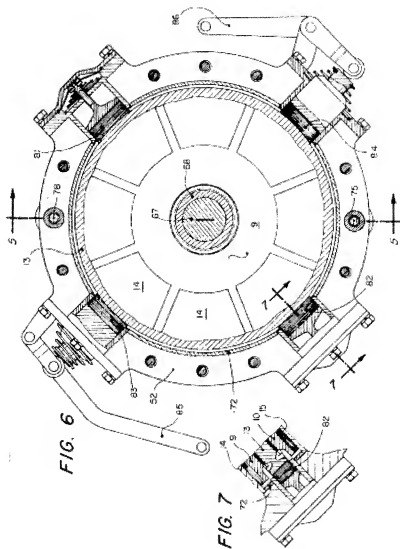


Exhibit 2 - FIG. 6 from the Klaue Reference

Mr. Washam posited to Examiner that the fluid connecting passages (Ref. Nos. 75 and 78) merely *crossed* the circumferential wall in a perpendicular fashion as opposed to being formed *around the periphery* of the circumferential wall. In support of this distinction, Mr. Washam noted the American Heritage Dictionary definition of “around” as being: (1) “on all sides”; (2) “in a circle or with a circular motion”; or (3) “in circumference or perimeter.” Further, it was noted that the proposed invention’s figures consistently support these definitions.

Examiner conceded to Mr. Washam's argument and agreed to accept the defeat of Klaue under this definition in light of the disclosure of the claimed invention.

Independent Claim 15

Claim 15 is novel despite the teachings of Klaue. Klaue features a spiral cooling path (Ref. Nos. 55 and 56, col. 7 ll. 8-17) that is entirely within the end walls of the housing. The only portion of the fluid flow path that involves the circumferential wall is the connecting passages (Ref. Nos. 75 and 78). These connecting passages merely cut across the circumferential wall in two isolated areas. Contrariwise, the present invention features a cooling fluid flow path that is within the circumferential wall and not the housing end walls.

CLAIM REJECTIONS – 35 U.S.C. § 103

Claims 9, 10, 18, and 19

Examiner rejected claims 9, 10, 18, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Klaue in view of Pogorzelski et al. (U.S. Patent No. 5,445,242). More specifically, Examiner stated:

Re: claims 9 and 19. Klaue is silent with regards to how the cooling fluid is circulated.

Pogorzelski et al. teach in figure 1 a pump 94 for pumping the cooling fluid through the supply and the fluid flow path. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified one of the ends of the fluid inlet of Klaue, to have been connected to a pump, as taught by Pogorzelski et al., in order to provide a means of circulating the cooling fluid through the cooling system in order to effectively prevent overheating of the brake device.

Re: claims 10 and 18. Klaue is silent with regards to a heat exchanger being in fluid communication with the supply for cooling the cooling fluid. Pogorzelski et al. teach in figure 1 a brake device including a heat exchanger 96 in fluid communication with the supply for cooling the cooling fluid. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the cooling system of Klaue to have included a heat exchanger, as taught by Pogorzelski et al., in order to provide a means of controlling heat dissipation within the system.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an

independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). In comparing both Klaue and Pogorzelski et al. to the claimed invention to determine obviousness, limitations of the presently claimed invention may not be ignored.

Claim 1 of the present invention is nonobvious despite the teachings of Klaue in view of Pogorzelski et al. Independent Claim 1 recites “a fluid flow path formed around the periphery of the circumferential wall such that the fluid flow path is external to the defined cavity.” Such features are neither taught nor suggested by either of the cited prior art references. Therefore, Claim 1 is nonobvious despite Klaue in view of Pogorzelski et al.

For example, Klaue provides a spiral cooling path (Ref. Nos. 55 and 56) that is entirely within the end walls. The only portion of the cooling path that transits the circumferential wall are the two connecting passages (Ref. Nos. 75 and 78). The present invention provides a cooling fluid flow path that is inside the circumferential wall, which is entirely outside of the cavity and not at all part of the end walls of the housing.

Pogorzelski et al. fails to teach or suggest the fluid flow path as well since it deals solely with disc brake calipers having internal cooling passages to cool only the brake fluid. In addition, Pogorzelski et al. does not provide for a wet brake system as does the present invention.

Claim 10 is dependent upon Claim 9 and therefore includes all of the limitations of Claim 9. Claim 9 is dependent on Claim 1. Consequently, Claim 9 now includes all of Claim 1's limitations. For the reasons discussed previously in the § 102 rejection response, independent Claim 1 is distinguishable from prior art reference Klaue.

Due to the limitations of Claim 1, Klaue in view of Pogorzelski et al. neither teaches nor suggests all claim limitations and thus Examiner's § 103(a) obviousness rejections of Claims 9 and 10 are improper. Applicant respectfully requests that Examiner withdraw the rejection and allow the claims as amended.

Claim 15 of the present invention is nonobvious despite the teachings of Klaue in view of Pogorzelski et al. Claims 18 and 19 are dependent upon Claim 15 and include all claim limitations of Claim 15. For the reasons discussed previously in the § 102 rejection response, independent Claim 15 is distinguishable from prior art reference Klaue.

Due to the limitations of Claim 15, Klaue in view of Pogorzelski et al. neither teaches nor suggests all claim limitations and thus Examiner's § 103(a) obviousness rejections of Claims 18 and 19 are improper. Applicant respectfully requests that Examiner withdraw the rejection and allow the claims as amended.

Claims 11 and 20

Examiner rejected claims 11 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Klaue in view of US Patent 4,262,789 to Collins. More specifically, Examiner stated:

Klaue describes the invention substantially as set forth above including the limitation of a cooling fluid, but lacks the limitation of the area at area sealed by the sealing member being filled with a volume of lubricating fluid. Collins teaches in col. 1 lines 39-43 the use of a brake system including a lubricating fluid in addition to a cooling fluid.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake system of Klaue to have included a lubricating fluid in addition to the cooling fluid, as taught by Collins, in order to provide a means of effectively lubricating the system rather than using the cooling fluid as both a cooling and lubricating means.

Collins and Klaue fail to teach or suggest a cooling fluid flow path that is formed within the circumferential wall. Instead, Collins and Klaue both teach an annular cooling fluid flow path that is entirely within one or more end walls of the housing.

Claim 1 of the present invention is nonobvious despite the teachings of Klaue in view of Collins. Claim 11 is dependent upon Claim 1 and therefore includes all of the limitations of Claim 1. For the reasons discussed previously in the § 102 rejection response, independent Claim 1 is distinguishable from prior art reference Klaue.

Due to the limitations of Claim 1, Klaue in view of Collins neither teaches nor suggests all claim limitations and thus Examiner's § 103(a) obviousness rejection of Claim 11 is

improper. Applicant respectfully requests that Examiner withdraw the rejection and allow the claims as amended.

Claim 15 of the present invention is nonobvious despite the teachings of Klaue in view of Collins. Claim 20 is dependent upon Claim 15 and therefore includes all of the limitations of Claim 15. For the reasons discussed previously in the § 102 rejection response, independent Claim 15 is distinguishable from prior art reference Klaue.

Due to the limitations of Claim 15, Klaue in view of Collins neither teaches nor suggests all claim limitations and thus Examiner's § 103(a) obviousness rejection of Claim 20 is improper. Applicant respectfully requests that Examiner withdraw the rejection and allow the claims as amended.

CONCLUSION

Applicant believes the claims are in condition for allowance. It is respectfully urged that the subject application is patentable over references cited by Examiner. Applicant requests reconsideration of the application and allowance of the claims. If there are any outstanding issues that the Examiner feels may be resolved by way of a telephone conference, Examiner is cordially invited to contact David W. Carstens at 972-367-2001.

The Commissioner is hereby authorized to charge any shortages or credit any overpayments to Deposit Account 50-0392.

Respectfully submitted,

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